

## ABSTRACT

### TRACKING OF A TUNABLE LASER OVER OUTPUT DISCONTINUITIES

5 A tracking stage has an optical filter with a free spectral range greater than the maximum mode hop of a tunable laser. The free spectral range is sufficient to determine the wavelength of the laser output after the mode hop. The output is dithered or a quadrature signal is used to determine whether the mode hop is forwards or backwards. In a further embodiment, a second tracking stage with a shorter free spectral range is coupled to the tunable laser to provide enhanced wavelength resolution. Alternatively, the second  
10 tracking stage is omitted and the signal of the tracking stage is amplified to enhance wavelength resolution.